

**AMENDMENT TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1        1. (Currently amended) A transceiver, comprising:
  - 2            a transceiver port for receiving and transmitting high data rate communication signals
  - 3            at radio frequency;
  - 4            automatic frequency control circuitry operably disposed to receive communication
  - 5            signals received at radio frequency, the automatic frequency control circuitry for adjusting a
  - 6            local oscillation frequency based upon a detected difference between an actual frequency of
  - 7            the received communication signals and an expected frequency of the received
  - 8            communication signals wherein the automatic frequency control circuitry produces an
  - 9            adjusted local oscillation; the received radio frequency communication signals to a specified
  - 10          frequency channel;
  - 11          down conversion circuitry coupled to the transceiver port coupled to receive the
  - 12          adjusted local oscillation from the output of the automatic frequency control circuitry and
  - 13          further coupled to receive the, the down conversion circuitry for down converting received
  - 14          radio frequency communication signals at radio frequency wherein the down conversion
  - 15          circuitry is operable to produce base band frequency communication signals based upon the
  - 16          adjusted local oscillation and upon the received communication signals at radio frequency;
  - 17          low pass filtering circuitry coupled to receive the base band converted
  - 18          frequency signals from the down conversion circuitry, the low pass filtering circuitry for

19 removing a DC offset and low frequency interference to produce low-pass filtered  
20 communication signals;

21 high pass filtering circuitry coupled to receive the low-pass filtered communication  
22 signals~~down converted frequency signals~~, the high pass filtering circuitry for filtering  
23 interference signals that are at a frequency range that is higher than a specified frequency  
24 channel of a (~~the~~ down converted base band channel[[]]);

25 dual-first received signal strength indication circuit[[s]] for measuring power levels of  
26 signal and interference from a node disposed up-stream of the low pass filtering circuitry;  
27 and

28 second received signal strength indication circuit for measuring signal power levels  
29 from a node disposed down-stream of the low pass filtering circuitry; and  
30 and-variable gain amplification circuitry operably disposed down-stream of the low  
31 pass filtering circuitry, the variable gain amplification circuitry for amplifying in varying  
32 amounts that are reciprocally adjusted in relation to adjustments in amplification of low noise  
33 amplification circuitry operably disposed to receive and amplify in-going communication  
34 signals.

1 2. (Original) The transceiver of claim 1 wherein the automatic frequency control  
2 circuitry comprises signal generation circuitry that provides phase shift keyed signals.

1 3. (Original) The transceiver of claim 2 wherein the phase shift keyed signal  
2 generation circuitry comprises quadrature phase shift keyed signal generation circuitry.

1       4. (Currently amended) The ~~automatic frequency control circuitry transceiver~~ of  
2       claim 1 wherein the automatic frequency control circuitry is coupled to receiver transceiver  
3       port of the transceiver and is operable and to adjust the [[LO]]local oscillation frequency to a  
4       the desired radio frequency (RF) [[RF]] channel.

1       5. (Original) The transceiver of claim 1 wherein the high pass filtering circuitry  
2       and variable gain amplification circuitry are combined to form high pass variable gain  
3       amplifier circuit.

1       6. (Currently amended) The transceiver of claim 1 further comprises an up  
2       converter for converting base band signals to radio frequency (RF) [[RF]] signals for  
3       transmission from the transceiver.

1       7. (Currently amended) The transceiver of claim 1 further including resistive  
2       capacitive (RC) [[RC]] calibration circuitry to automatically tune the on-chip channel  
3       selection low pass filters.

1       8. (Currently amended) A transceiver, comprising;  
2           a transceiver port for receiving and transmitting radio frequency communication  
3           signals;  
4           an automatic frequency control circuit for adjusting a local oscillation (LO) based  
5           upon the center frequency of a received radio frequency (RF) [[RF]] signal;  
6           mixing circuitry for down converting the received RF signal based upon the adjusted  
7           LO; and  
8           circuitry for removing a direct current (DC)[[DC]] offset and low frequency  
9           interference.

1       9. (Original) The transceiver of claim 8 further including dual received signal  
2           indication circuits, which dual received signal indicator circuits are for measuring received  
3           signal power and received signal and interference power.

1       10. (Original) The transceiver of claim 8 further including high pass variable gain  
2           amplification circuitry.

1       11. (Original) The transceiver of claim 10 further including a second high pass  
2           variable gain amplifier circuit.

1       12. (Original) The transceiver of claim 11 further including a third high pass  
2           variable gain amplifier circuit.

1        13. (Original) The transceiver of claim 8 wherein the automatic frequency control  
2        circuitry includes quadrature phase shift keyed signal generation circuitry.

1        14. (Currently amended) The transceiver of claim 8 wherein the automatic  
2        frequency control circuitry receives base band quadrature signals and produces an adjusted  
3        local oscillation (LO)[[LO]] signal output from a local oscillator.

1        15. (Currently amended) The transceiver of claim 8 further including filter  
2        circuitry for removing [[a]]the DC offset.

1        16. (Original) The transceiver of claim 8 further including filter circuitry for  
2        removing low frequency interference.

1        17. (Original) The transceiver of claim 8 further including an up converter for up  
2        converting base band signals to radio frequency signals for transmission from the transceiver  
3        port.

1        18. (Currently amended) The transceiver of claim 8 further including resistive  
2        capacitive (RC)[[RC]] calibration circuitry for automatically tuning the on chip filters.

1        19. (Currently amended) A method in a high data rate communication transceiver  
2 comprising:  
3            receiving and amplifying wideband or-high data rate radio frequency (RF)  
4 communication signals;  
5            adjusting the local oscillation (LO) frequency to compensate for a difference in a  
6 received frequency and an expected frequency of the received high data rate RF  
7 communication signals align with the received RF signals;  
8            down converting the received signals from the RF to base band frequency; and  
9            applying the down converted base band frequency signals to low pass filters and  
10 amplifiers.

1        20. (Currently amended) The method of claim 19 wherein the applying step  
2 removes the direct current (DC)[[DC]] offset.

1        21. (Original) The method of claim 19 wherein the applying step removes low  
2 frequency interference.

1        22. (Original) The method of claim 19 further including the step of sensing the  
2 power level of the received signals.

1        23. (Currently amended) The method of claim 19 further including the step of  
2 sensing the a power level of the received signals and interference.

1        24. (Original) The method of claim 19 further including the step of setting a first  
2 amplification level based upon a ratio of signal-to-signal and interference power levels.

1        25. (Currently amended) The method of claim 24 further including the step of  
2 setting a second amplification level based upon a ratio of signal[-] to[-] signal and plus  
3 interference power levels.

1        26. (Currently amended) The method of claim 25 wherein the first and second  
2 amplification levels, when summed, provide a right constant amount of amount of  
3 amplification.

1        27. (Currently amended) The method of claim 19 further including the step of  
2 receiving center channel frequency information from a pilot signal and determining a  
3 difference between the received RF frequency and the desired expected frequency.

1        28. (Original) The method of claim 27 wherein the difference is determined by  
2 measuring an actual center frequency for the received signal.

1        29. (Currently amended) A transceiver, comprising:  
2              frequency control circuitry operable to compensate for a detected difference between  
3              an actual frequency of the received communication signals and an expected frequency  
4              of the received communication signal;  
5              filtering circuitry; and  
6              multiple high pass variable gain amplifier circuits coupled to receive the output of the  
7              filtering circuitry wherein the filtering circuitry removes low frequency interference and a  
8              direct current (DC)[[DC]] offset and wherein the high pass variable gain amplification  
9              circuits provide signal amplification.

1        30. (Original) The transceiver of claim 29 wherein the frequency control circuitry  
2        includes circuitry for measuring a center channel frequency and for determining a difference  
3        between the measured center channel frequency and a specified center channel frequency.

1        31. (Original) The transceiver of claim 29 further including signal generation  
2        circuitry for generating quadrature phase shift keyed signals.

1        32. (Original) The transceiver of claim 29 further including a mixer for producing  
2        local oscillator output signals at a specified frequency